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resemblance to a fan. On the 11th of October M. Fearnley perceived a short ray of light, about 1′ in length, issuing from the nucleus in the direction of the tail. It is worthy of remark, that this singular appearance was witnessed on the same night by Mr. Hind, at the observatory of Mr. Bishop, Regent's Park (*Ast. Nach.* No. 839, p. 371). It may be mentioned, also, that phenomena of the same nature were perceived by Kepler in the great comet of 1618 (*De Cometis*, p. 103), and by Sir John Herschel in Halley's Comet (*Ast. Obs. at the Cape of Good Hope*, p. 396). The comet at one time was distinctly visible to the naked eye. It was so seen by M. Reslhuber on the 7th of October. It ceased to be generally visible even in telescopes before the middle of December.* Only *one* observation of a later date exists, so far as is hitherto known, viz. the observation by Sig. Secchi already referred to.

Ascensions droites relatives des 36 Etoiles fundamentales, déduites des Observations faites à l'Observatoire Royal de Greenwich depuis 1750 *jusqu'en* 1762, *et depuis* 1836 *jusqu'en* 1850. (Second Partie.) Par M. U. J. Le Verrier.

(*Comptes Rendus, Dec.* 6, 1852.)

In the *Comptes Rendus* for the 5th of April, 1852, there is a brief account of the first part of this important memoir. In the December number M. Le Verrier gives the corrections which should be applied to the right ascension of each star (as computed in the *Tabulæ Regiomontanæ*) for every ten years from 1750 to 1850. These corrections are deduced by the aid of two Greenwich catalogues, one of which is founded on the observations of Bradley and the other on the modern observations extending from 1836 to 1850, executed under the superintendence of the present Astronomer Royal.

One of the most interesting results of M. Le Verrier's researches is the establishment of the *variability* of the proper motion of *Sirius*. This remarkable fact, the original discovery of which is due to Bessel, although its existence has been subsequently disputed, is clearly indicated by the observations of Bradley, and still more so by those upon which the catalogue of 1850 is founded. It appears, also, that the corrections to the place of the star agree both in quantity and direction with the hypothesis which supposes the star to revolve round a large opaque body. This hypothesis more especially accounts for the positions of *Sirius* from 1830 to 1850 with the most perfect accuracy. Indications of variability are also perceptible in the proper motion of *Procyon*, but the results in this case are not sufficiently unequivocal to justify a definitive conclusion on the subject. The following are the corrections above mentioned, which are to be applied according to their signs to the data of the *Tabulæ Regiomontanæ* :—

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* M. Fearnley's observations of the comet come down to Dec. 6; M. Reslhuber's, to Dec. 10; and Mr. Hartnup's, of the Liverpool Observatory, to Dec. 12 (*Ast. Nach.* No. 840, p. 393).

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Corrections of the relative Right Ascensions of the 36 Fundamental Stars comprised in the Tabulæ Regiomontanæ.

(Expressed in thousandths of a second of time.)

	1750	1760	1770	1780	1790	1800	1810	1820	1830	1840	1850
γ Pegasi......	+108	+ 90	+ 72	+ 53	+ 34	+ 13	− 8	− 28	− 49	− 70	− 92
α Arietis......	− 46	− 35	− 24	− 13	− 3	+ 8	+ 18	+ 27	+ 36	+ 44	+ 53
α Ceti	+ 11	+ 12	+ 13	+ 14	+ 15	+ 16	+ 17	+ 17	+ 17	+ 17	+ 17
Aldebaran ...	− 26	− 17	− 8	0	+ 9	+ 18	+ 28	+ 37	+ 46	+ 56	+ 66
Capella	− 24	− 23	− 21	− 19	− 15	− 9	− 1	+ 7	+ 16	+ 26	+ 37
Rigel	+ 51	+ 49	+ 47	+ 45	+ 43	+ 40	+ 38	+ 36	+ 33	+ 30	+ 27
β Tauri	+163	+142	+121	+101	+ 81	+ 62	+ 42	+ 23	+ 5	− 13	− 30
α Orionis	+ 42	+ 38	+ 33	+ 29	+ 25	+ 21	+ 17	+ 13	+ 10	+ 7	+ 3
Sirius										+263	+114
Castor	− 61	− 43	− 24	− 5	+ 14	+ 34	+ 54		+353	+373	+394
Procyon	− 58	− 57	− 55	− 53	− 50	− 46	− 42	− 37	− 31	− 26	− 20
Pollux	−112	− 94	− 75	− 56	− 37	− 18	+ 1	+ 20	+ 40	+ 61	+ 82
α Hydræ	−101	− 82	− 63	− 45	− 27	− 9	+ 9	+ 27	+ 44	+ 61	+ 78
Regulus	−122	−102	− 82	− 63	− 45	− 27	− 9	+ 9	+ 26	+ 43	+ 59
β Leonis	−106	− 87	− 68	− 50	− 32	− 15	+ 2	+ 18	+ 34	+ 49	+ 64
β Virginis ...	+ 9	+ 13	+ 18	+ 22	+ 27	+ 31	+ 35	+ 38	+ 40	+ 42	+ 44
α Virginis ...	− 19	− 19	− 19	− 19	− 19	− 19	− 20	− 21	− 23	− 25	− 28
Arcturus	− 34	− 23	− 13	− 4	+ 4	+ 11	+ 16	+ 20	+ 22	+ 23	+ 23
α^1 Libræ......	+136	+120	+103	+ 85	+ 66	+ 48	+ 29	+ 9	− 10	− 30	− 49
α^2 Libræ......	+228	+200	+172	+144	+115	+ 87	+ 58	+ 29	0	− 30	− 60
α Coronæ ...	− 32	− 25	− 17	− 9	− 1	+ 6	+ 11	+ 17	+ 24	+ 30	+ 36
α Serpentis ..	+165	+142	+118	+ 94	+ 70	+ 46	+ 21	− 3	− 28	− 53	− 78
Antares	+106	+ 89	+ 72	+ 56	+ 39	+ 22	+ 5	− 12	− 28	− 45	− 62
α Herculis ...	− 56	− 52	− 47	− 43	− 39	− 35	− 32	− 29	− 26	− 22	− 19
α Ophiuchi...	−141	−114	− 86	− 59	− 32	− 6	+ 20	+ 46	+ 71	+ 97	+122
Vega	− 52	− 46	− 40	− 33	− 27	− 21	− 15	− 9	− 3	+ 3	+ 8
γ Aquilæ	+176	+151	+126	+101	+ 75	+ 50	+ 24	− 2	− 28	− 54	− 81
α Aquilæ	− 12	− 12	− 13	− 13	− 14	− 15	− 16	− 17	− 18	− 18	− 18
β Aquilæ	+152	+128	+102	+ 75	+ 48	+ 21	− 7	− 35	− 64	− 93	−123
α^1 Capricorni	− 51	− 49	− 46	− 44	− 42	− 40	− 38	− 36	− 35	− 33	− 32
α^2 Capricorni	+ 20	+ 11	+ 3	− 6	− 15	− 25	− 35	− 44	− 54	− 64	− 74
α Cygni	−110	− 96	− 82	− 68	− 55	− 42	− 30	− 18	− 6	+ 6	+ 17
α Aquarii ...	− 97	− 87	− 77	− 68	− 59	− 50	− 41	− 33	− 25	− 17	− 10
Fomalhaut ...	− 58	− 69	− 81	− 94	−107	−121	−135	−149	−163	−177	−191
α Pegasi	+ 6	+ 7	+ 8	+ 8	+ 8	+ 8	+ 7	+ 5	+ 3	+ 2	0
α Andromedæ	− 13	− 4	+ 5	+ 14	+ 22	+ 30	+ 37	+ 44	+ 51	+ 57	+ 62

From 1750 to 1810 the correction for *Castor* refers to the centre of light of the two stars. From 1830 to 1850 it refers to the position of the *second* star.

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Table of the Correction peculiar to the Star Sirius.

	s		s		s
1750	+0·219	1760	+0·005	1842	+0·286
1751	·185	1761	·001	1843	·279
1752	·153	1762	·000	1844	·261
1753	·123			1845	·236
1754	·096	1836	·162	1846	·210
1755	·073	1837	·187	1847	·184
1756	·053	1838	·213	1848	·159
1757	·036	1839	·239	1849	·136
1758	·023	1840	·263	1850	+0·114
1759	+0·013	1841	+0·280		

A curious anomaly offered itself to M. Le Verrier in the course of his researches on Bradley's observations. The differences of the mean right ascensions of stars distant about twelve hours from each other were found to be subject to a small periodic variation, which appeared to pass through the cycle of its values in the course of every twelve months. This variation amounted at its maximum to $0^{s}\cdot06$. M. Le Verrier seems disposed to attribute it to an imperfect compensation of the pendulum. This circumstance recalls to mind an idea formerly broached by Mr. Sheepshanks, viz. that of dispensing with all mechanical contrivances for compensation, by placing the pendulum at such a distance below the surface of the earth as to render it inacessible to rapid fluctuations of temperature. A similar mode of getting rid of the consequences of imperfect compensation has been recently proposed by M. Faye, who justly remarks, that the invention of the electric telegraph suggests a method of peculiar facility for reducing it to practice.

But it may be mentioned, that the modern Greenwich Observations have not offered to M. Le Verrier any trace of the anomaly above referred to.

METIS.

Professor Wolfers, of Berlin, has investigated new elements of this planet, which he has employed in calculating an ephemeris for the opposition of 1853. The ephemeris extends from Sept. 17 to Oct. 31 (*Ast. Nach.* No. 845, p. 75).

THETIS.

An ephemeris of this planet has been calculated by Dr. Hartwig, of Leipsic, for the opposition of 1853. It extends from April 16 to August 30 (*Ast. Nach.* No. 847, p. 103).

CALLIOPE.

An ephemeris for the opposition of 1853, extending from Feb. 1 to April 6, has been calculated by M. Hornstein, of the Vienna Observatory (*Ast. Nach.* No. 847, p. 111).